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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/568,853

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Olivier Larcher

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EXAMINER

ZIMMER, ANTHONY J

ART UNIT

PAPER NUMBER

1793

NOTIFICATION DATE

DELIVERY MODE

11/05/2009

ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

ADIPFDD@bipc.com

<b>Office Action Summary</b>	<b>Application No.</b> 10/568,853	<b>Applicant(s)</b> LARCHER ET AL.	
	<b>Examiner</b> ANTHONY J. ZIMMER	<b>Art Unit</b> 1793	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 17 September 2009.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 16-41 is/are pending in the application.
- 4a) Of the above claim(s) 24-35 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 16-23 and 36-41 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                     | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

## **DETAILED ACTION**

### ***Continued Examination Under 37 CFR 1.114***

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 8/24/2009 has been entered.

### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 16-23 and 36-37 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

Claim 16 recites "exhibiting ... a specific surface area of at least 15 m<sup>2</sup>/g after calcining *at least once* at a temperature of at least 850°C." (Emphasis added). Applicant points to support for this amendment in at least page 3, lines 6-7; page 15, lines 3-7 and 16-19; page 22, lines 14-15; and the original claims.

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However, the cited passages do not support the claimed surface area range being measured after calcination more than once at the instantly claimed temperature (850°C). Instead, the original disclosure recites a second calcination at a temperature greater than 400°C (see page 3, lines 5-9 and 30-34), uses a 500°C atmosphere in the examples, recites that a second calcination temperature over 900°C is not preferred (see page 15, lines 33-35) and does not mention the range of 850°C or greater for the second calcination. The same applies for the similar limitations in claims 36 and 37. Also, the original disclosure does not support performing calcination more than twice (as the claim has the limitation “at least once”).

The disclosure as originally filed also does not support the limitation of “about 1100°C” present in claim 37 because such a limitation encompasses a range around 1100°C including temperatures above 1100°C which are not supported by the original disclosure at page 15, lines 16-19.

### ***Claim Rejections - 35 USC § 102/103***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and

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the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 16-18, 20, and 36-41 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Blanchard '563.

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In regard to claims 16-18, 20, and 36-37; Blanchard teaches a cerium oxide and zirconium oxide species with a Ce/Zr ratio of greater than 1, a specific surface area of greater than  $30 \text{ m}^2/\text{g}$  after calcination at a temperature of  $1000^\circ\text{C}$ , and containing other lanthanide elements other than cerium (lanthanum, praseodymium, or neodymium). See [0023].

Blanchard is silent in regard to the reducibility of the taught composition and the surface area after calcination at  $1100^\circ\text{C}$  (in regard to claim 37), however the composition appears to be the same as that instantly claimed because the known structure, properties, and composition are the same, as elaborated above. See MPEP 2112.01. Further, the method of preparing the catalyst disclosed in Blanchard is same as that described in the instant specification for producing the instantly claimed product. For instance, both precipitate cerium and zirconium salts with a basic solution, heat in an aqueous medium, separate the precipitate, and add an additive before kneading/milling. See Examples of Blanchard and instant page 2, line 20 – instant page 3, line 4. Thus, the product of Blanchard would be the same as that instantly disclosed, and would exhibit the same properties when exposed to calcination steps as described in the claims. See MPEP 2112.01.

In regard to claims 38-41, Blanchard is silent in regard to the surface area and reducibility when a second calcination step as claimed is carried out.

However, the composition appears to be the same as that instantly claimed because the known structure, properties, and composition are the same, as elaborated above. See MPEP 2112.01. Further, the method of preparing the catalyst disclosed in

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Blanchard is the same as that described in the instant specification for producing the instantly claimed product. For instance, both precipitate cerium and zirconium salts with a basic solution, heat in an aqueous medium, separate the precipitate, and add an additive before kneading/milling. See Examples of Blanchard and instant page 2, line 20 – instant page 3, line 4. Thus, the product of Blanchard would be the same as that instantly disclosed, and would exhibit the same properties when exposed to calcination steps as described in the claims. See MPEP 2112.01. Also, Blanchard teaches the use of an inert atmosphere for a first calcination step. See [0075].

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 19 and 21-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Blanchard '563.

In regard to claims 19, Blanchard teaches a ratio of Ce/Zr of greater than 1, see [0023], overlapping ranges are *prima facie* obviousness. See MPEP 2144.05.

In regard to claims 21 and 23, Blanchard teaches that the composition can further comprise platinum, rhodium, palladium, or iridium. See [0076]. See above for the limitation of claim 22.

### ***Double Patenting***

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the “right to exclude” granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claims 16-23 and 36-41 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 15-20 and 27-31 of copending Application No. 10/549531. Although the conflicting claims are not identical, they are not patentably distinct from each other because: the composition of



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the metal oxide cited in the instant claims is met by the limitations of the cited claims of 10/549531. Though the reducibility as defined in the instant specification is not mentioned in the claims of 10/549531, the catalysts disclosed therein would have a reducibility in the range of that instantly claim because the composition of the mixed oxide and the surface area (as explained above) of the catalysts in 10/549531 are the same as those of the instant invention, thus the other properties must also be the same. Also, properties of identical chemical composition can not have mutually exclusive properties and the processes of producing the compositions are identical, further supporting this conclusion. See MPEP 2112.01.

### ***Response to Arguments***

Applicant's arguments filed 8/24/2009 have been fully considered but they are not persuasive.

In regard to the new matter rejection, applicant argues that there is more than adequate support for at least one calcination at a temperature of at least 850°C.

This was not found to be persuasive. In particular applicant argues that "a calcination procedure having at least a first calcination carried out at a temperature of at least 850°C is *explicitly* disclosed (see, e.g., page 15, lines 3-7)." Emphasis added.

However, the citation reads:

In a first step, the calcination is carried out under an inert gas or under vacuum. The inert gas can be helium, argon or nitrogen. The vacuum is generally a low vacuum with an oxygen partial pressure of less than  $10^{-1}$  mbar. The calcination temperature is at least 850°C.

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Thus, as shown, only one and only the first calcination step is explicitly disclosed as being carried out at a temperature of at least 850°C, and not “at least one” as instantly claimed which encompasses one and any number of subsequent calcinations. See MPEP 2163.05 III.

Applicant argues that instant examples 1-4 use a first calcination at a temperature of at least 850°C. However, the examples disclose the following calcination steps:

Example 1:	First Calcination: 900°C	Second Calcination: 500°C
Example 2:	First Calcination: 1100°C	Second Calcination: 500°C
Example 3:	First Calcination: 900°C	Second Calcination: 500°C
Example 4:	First Calcination: 900°C	Second Calcination: 500°C

Thus, again, only one and not “at least one” calcination step above 850°C in the respective examples is disclosed or supported. The recitation of “at least one” causes the claims to read literally on embodiments outside the originally disclosed embodiments which support at most two calcination steps in general, and only one step that is disclosed as being carried out in a temperature range of at least 850°C. See also MPEP 2163.05 III.

Applicant further argues that a second possible calcination carried out at a temperature of 400-900°C is disclosed and that this clearly encompasses temperatures of greater than 850°C.

However, the disclosure of a range of 400-900°C does not support an open range of greater than 850°C because the claim reads literally on embodiments outside the 400-900°C range. See MPEP 2163.05 III.

In regard to the art rejections, applicant argues that the product of Blanchard would not necessarily have the same properties as that instantly claimed (in particular reducibility) because other factors than the same known composition can affect the reducibility. This was found to be unpersuasive for several reasons:

First, the known properties of the composition of Blanchard are the same as that instantly claimed. Also, the cerium content (in particular a high cerium content) is responsible for a high reducibility as applicant admits on instant page 2, lines 1-7. Thus since Blanchard has the same composition, it is expected that the instantly required reducibility would be the same.

Second, though applicant argues otherwise on pages 13-14 of arguments submitted 8/24/2009, the method of making the composition of Blanchard is substantially identical to that instantly disclosed as discussed in the rejection above. Thus, the products are seen as being the same. See MPEP 2112.01.

Third, applicant has provided no evidence pointing to the contrary. Applicant provides unpersuasive arguments and submits that examples 1 and 3 of Blanchard have reducibilities of 58% and 46%. However, these are applicant's contentions presented without proof. Attorney arguments cannot take the place of evidence in showing the inoperability of the prior art or unexpected results. To be of probative value any objective evidence should be supported by actual proof. See MPEP 716.01(c).

In regard to the ODP rejection, the argument was found to be unpersuasive for reasons elaborated above in regard to Blanchard.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to ANTHONY J. ZIMMER whose telephone number is

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(571)270-3591. The examiner can normally be reached on Monday - Friday 7:30 AM - 5:00 PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stanley Silverman can be reached on 571-272-1358. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

ajz

/Steven Bos/  
Primary Examiner, Art Unit 1793